

REMARKS

Claims 1-11 are all the claims pending in the application. Reconsideration of the application and allowance of all claims are respectfully requested in view of the following remarks.

The invention is directed to a method of compensating for a possible delay between two or more radio transmission paths in a space diversity system. In order to properly combine two received signals, there must be some compensation for any difference in their arrival times. As described in the last six lines of page 2 of the specification, it has been known to determine this delay and then build a fixed compensation into the system. As described at lines 5-8 of page 6, the present invention seeks to determine the delay and appropriate compensation automatically.

The low pass filtering (LPF), A/D conversion (ADC) and equalizing (FSE) in the invention shown in Fig. 2 are all included in the prior art of Fig. 1. What is different is the variable delays (MT) whereby one of the digital signals is delayed relative to the other by an integer multiple of the sampling period. The delays must be capable of calculating different delays, because it is not known which of the originally received signals is delayed relative to the other, or by how much.

Meehan provides a first analog signal through a first A/D converter 226 and provides a second analog signal through a second A/D convert 246, to produce first and second digital signals. The examiner has identified equalizers 228 and 248 as the respective equalizers recited in claim 1. The examiner has identified the phase shifter 230 as delaying the first digital. The delay imparted by the phase shifter 230 is a 90 degree phase shift.

Meehan fails to teach the subject matter of claim 1 for at least two reasons. First, the delay recited in claim 1 is a period equal to an integer multiple of the sampling period. There is no discussion in Meehan as to what the sampling period is, and it is not inherent that 90 degrees will be an integer multiple of this sampling period. The examiner discusses this issue at page 2 of the Office action, focusing on the fact that the phase shifter operates in the time domain. But that does not require that the phase shift operate at a multiple of the sampling period. To the contrary, assume, for example, a sampling of the analog signal to obtain a sequence of digital pulses. A 90 degree phase shift might shift the pulse train by one quarter of a pulse. This is not a multiple of the sampling period, but just the opposite. To delay by a quarter of a pulse would require that the sampling period be an integer multiple of the delay, not the other way around.

Second, the claim is directed to a method of compensating for a possible delay *between* two paths in a space diversity system. It is not possible to compensate for such a delay between two paths unless the delaying steps results in delaying one signal relative to the other.

The examiner recognizes that Meehan does not teach delaying one signal or the other. Pal does teach delay of one signal relative to the other, but does so for a purpose having no applicability to Meehan, and it is submitted that the motivation to combine the teachings of these references in the manner suggested by the examiner is missing in the prior art.

Pal describes at column 8 an arrangement wherein a single received signal is split into two paths which are sampled out of phase with one another. A differential delay is then needed to bring the two sampled signals back into phase.

If one of skill in the art were to review the two cited references, without benefit of hindsight after reviewing the present application, he would see Pal as teaching a technique of

differential delay which is useful in connection with a signal processing path wherein two identical signals are sampled out of phase. In Meehan, on the other hand, there is no suggestion that the two A/D converters 226 and 246 sample out of phase with one another, so there would be no apparent reason for differentially delaying the signals. This only becomes obvious when the motivation is supplied by the present application to achieve a result not contemplated by either reference.

For the above reasons, it is submitted that the claimed invention would not have been obvious to one of skill in the art from the teachings of the cited art. Accordingly, allowance of all claims is respectfully requested.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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